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Dear Colleague:

In this sampler, you will find information designed to guide, direct, and clarify your efforts in preparing for and administering Indiana Statewide Testing for Educational Progress-Plus (*ISTEP+*). We want your students to be prepared to pass *ISTEP+* every time they take the test, and we feel this sampler is an excellent instructional resource.

As a classroom teacher, your knowledge of the Indiana Academic Standards assessed on *ISTEP+* is very important. Your ability to use that knowledge in your instructional strategies with your students and your familiarity with all aspects of test administration are critically important to students' success on the test and with the rest of their coursework. You influence students' choices and futures as well as their academic achievement.

We expect that the information provided in this sampler will help you in your ongoing efforts to educate and motivate your students. Please see the Department of Education's Web site at http://www.doe.state.in.us/istep for additional information about Indiana Statewide Testing for Educational Progress-Plus (ISTEP+).

Thank you for all you do to prepare students to meet the challenges they will face in this ever-changing and challenging world.

Sincerely,

Dr. Suellen Reed

Superintendent of Public Instruction

Dr. Suellen Reed

Introduction

The *Grade 8 Item Sampler* provides information about the *ISTEP+* tests for students, parents, educators, and others affected by the tests. The information in this sampler has been compiled by the Division of School Assessment of the Indiana Department of Education and CTB/McGraw-Hill, the test development contractor for Indiana.

The items in this sampler are intended to provide teachers with specific examples of how the different standards will be measured on the test. These examples can serve as models when teachers are constructing test items for classroom assessment. The sampler is not a practice test. This book includes sample test items (questions) and scoring rubrics for both English/Language Arts and Mathematics that reflect the new Indiana Academic Standards. All items included in this book are samples only and not actual items. The scoring rubrics presented for Language Conventions and Writing Applications are the actual rubrics used to score the writing prompts and/or extended-response items for English/Language Arts. All samples are representative of the types of items that students taking the *ISTEP+* examination at Grade 8 will be required to answer.

A condensed version of the Indiana Academic Standards is included in this sampler. These are the skills that all Indiana students are required to know and be able to perform. Complete copies of the Indiana Academic Standards can be obtained from the Department of Education's Web site at http://www.doe.state.in.us/standards or directly from the Department of Education.

Frequently Asked Questions

Q. What are the ISTEP+ assessments for Grades 3, 6, and 8 designed to do?

A. These assessments measure students' mastery of the Indiana Academic Standards in English/Language Arts and Mathematics taught in the grade levels **prior** to Grades 3, 6, and 8. They are part of a statewide testing program designed to connect student learning, classroom instruction, school improvement, and educational goals. ISTEP+ results provide information about the strengths and weaknesses of individual students as well as aggregate data about school, district/corporation, and state performance. The test is designed to permit inferences about student achievement in the critical knowledge and skill areas defined by Indiana's Academic Standards and to evaluate curriculum choices and instructional strategies. It is **not** intended that grade-level curricula be restricted to the content of this test. The required criterion-referenced test consists of two parts: the Basic Skills Assessment (multiple-choice items) and the Applied Skills Assessment (open-ended items). Additional norm-referenced achievement and school ability tests are optional. Your school corporation decides each year to administer all, part, or none of the norm-referenced tests.

Q. What are the Indiana Academic Standards?

A. In collaboration with state K–12 educators, the Indiana State Board of Education has adopted world-class standards for each grade level in English/Language Arts and Mathematics. These learning outcomes require that Indiana schools have rigorous curricula aligned with state standards and that students learn the skills and knowledge deemed necessary for successful performances in school, at work, and in the community. ISTEP+ testing for Grades 3, 6, and 8 is based on the academic standards from previous school years. Therefore, testing in Grade 3 measures mastery of Indiana Academic Standards for Grades K–2, Grade 6 measures K–5 standards, and Grade 8 measures K–7 standards. While these standards set expectations for student learning, they do not prescribe how the standards should be taught. Teachers should use their considerable skills, experience, talents, and creative resources to design standards-based classroom instructional activities tailored to meet the individual needs of their students. Copies of the Teacher's Edition of Indiana's Academic Standards have been forwarded to all school administrators.

Q. In what ways are ISTEP+ results linked to state and federal accountability?

A. Indiana is required by state and federal law to administer a statewide assessment program that systematically measures student performance and monitors progress toward pre-established goals by all schools. ISTEP+ results are a primary component for educational accountability under both Public Law 221 (state) and No Child Left Behind (federal). Testing data are also used to inform local decision making and guide Continuous School Improvement initiatives.

Q. How are test items created for this assessment? How does Indiana ensure that the test items are valid and unbiased for our students?

A. Since 1987, in conjunction with a test development company (CTB/McGraw-Hill), Indiana educators have collaborated in all steps of the test design and item development process. Indiana teachers help determine how standards and indicators

will be tested by reviewing and approving all reading passages prior to the construction of test items. They review test items to ensure that they are developmentally appropriate for the grade level and that they accurately measure the standards they were designed to assess. After additional reviews by the Citizens Review Committee and the Sensitivity/ Bias Committee, items are evaluated on a pilot test form administered to Indiana students. Only items approved through these measures will appear on the actual *ISTEP+* assessments.

Q. How are test items scored?

A. Multiple-choice items are scored by computer in Monterey, California. Open-ended or constructed-response items are read and electronically scored in Indianapolis by trained scorers. Scores on these items are based on correct answers as well as on level of understanding and ability to communicate. Rubrics guide scorers in assigning scores on the constructed-response and essay questions. Each rubric contains a list of acceptable responses (exemplars) as well as a description of the level of performance for each score point. If a student gives a response that is not listed as an exemplar but is supported by the text, the student receives credit for the response. Anchor papers are selected for each designated score point of an item. These are used as guides for the scorers in scoring the Applied Skills sections.

Q. How does Indiana ensure that scoring is reliable?

A. Potential scorers, who must be college graduates and meet other competitive qualification requirements, are screened carefully during two interviews. Once selected, scorers train for several days with actual student responses from item pilots and must pass a test before they begin to score "live" student responses. The scorers must continue to demonstrate proficiency in following established scoring guidelines throughout their terms of employment. To ensure that grading by all scorers consistently matches the guidelines established in the scoring rubric, the trained scorers are monitored closely by testing supervisors. Each scorer is administered a "checkset" (a set of pre-scored student responses) several times a day that compares his or her grades to those assigned by the supervisor. In addition, the team leader, who works with a team of nine scorers, randomly rescores a percentage of each scorer's completed items. Finally, 5% of the total responses are rescored daily.

Q. What is the policy regarding rescoring of responses?

A. Within a specified window of time, a student's parent or guardian may request a rescoring of specific items from a student's test, including the essay. It should be stressed that the scores obtained through the rescoring will be final and that the rescoring may have positive, negative, or no effect on the final score. Scores resulting from rescoring items are unlikely to be more than a few points different from the original score.

Q. What practices are appropriate when preparing students for ISTEP+?

A. It is important that students anticipate the tests with interest rather than with anxiety. They should realize that they are taking achievement tests that yield information

about the skills they have mastered as well as the skills they need to learn. Point out that questions intentionally cover a range of difficulty. The Department of Education's (DOE) policy about test preparation is that any activity in the school or classroom that creates an excessive focus on the specific test content of *ISTEP+* for the purpose of artificially raising test scores, whether overt or inadvertent, is inappropriate. The *Indiana Code of Ethical Testing Practices and Procedures* was created to assist in answering specific questions about what constitutes "excessive focus." This document has been distributed to building administrators in all school corporations and may be downloaded from the DOE Web site. For easy reference, the following is a summary of ethical practices.

It is considered **appropriate** to do the following:

- review with all students the skills and concepts, including those unique to English/ Language Arts and Mathematics, taught in previous years (see classroom activities in Curriculum Frameworks)
- review ISTEP+ objectives as part of a general review of curricula
- discuss general test-taking strategies and have students complete the ISTEP+
 practice tests that are included with regular materials at a time suggested by the
 ISTEP+ Examiner's Manual
- talk with students and parents about academic expectations and the importance of setting specific performance goals that enable students to assume responsibility for their learning
- develop instructional objectives based on the Indiana Academic Standards
- use test results as part of a body of evidence in making informed decisions about individuals, educational programs, or curriculum

It is considered **inappropriate** to do the following:

- teach or "cram" *ISTEP+* content (that has not been previously covered) during the time period immediately preceding the examination
- call students' attention to the fact that a similar question will be on the upcoming ISTEP+
- review ISTEP+ related skills and concepts with only those students to be tested
- select for review only those ISTEP+ objectives or items on which students performed poorly on previous examinations or focus instructional objectives on specific test items
- copy test items for instructional use or make minor alterations in test items to construct study guides, worksheets, or classroom assessments specifically designed for test preparation purposes
- use current, past, or parallel *ISTEP+* test items as review materials except those authorized for such use by the DOE (the released Applied Skills items found in the *Teacher's Scoring Guides* for Grades 3, 6, and 8)

NOTE: Duplication of any part of the test books constitutes a serious breach of security as some test items may appear in future versions of the test. Exposing

students to test questions before testing invalidates test scores and denies students the opportunity to participate in testing.

Q. What practices are considered inappropriate during testing?

- A. coaching students in any way (verbally or with gestures or facial expressions)
 - using any mechanical or technical device during a session **not** approved for such use, except by students for whom such use is an authorized IEP accommodation
 - answering questions about test items or vocabulary
 - reading any portion of the test to students, except when doing so during a portion other than reading comprehension is an authorized IEP accommodation
 - allowing noncertified personnel (e.g., aides or parent volunteers) to administer the test

Q. How do I access more information about *ISTEP+* and other test-support resources?

A. The Department of Education maintains a Web site at http://www.doe.state.in.us that provides immediate access to ISTEP+ information as well as to legislative updates and information about the Indiana Academic Standards, accountability, school improvement, and professional development. The ISTEP+ Web page, accessible from this site, includes a calendar with upcoming test dates, bulletins with current testing information, and a list of ISTEP+ support documents that may be downloaded. These documents include the Guide to Test Interpretation, the GQE Item Sampler, and the ISTEP+ Program Manual. Multiple copies of ISTEP+ support documents should be ordered through the school's Test Coordinator.

Questions about assessment not answered in this sampler may be directed to John Moreland (at **jmorelan@doe.state.in.us**), English/Language Arts consultant, or to Cynthia Roach (at **cschwing@doe.state.in.us**), Mathematics consultant. The School Assessment Division's telephone number is 317-232-9050, and the toll-free testing hotline is 888-544-7837 (888-54ISTEP).



GRADE 7 INDIANA ACADEMIC STANDARDS

☐ READING: Word Recognition, Fluency, and Vocabulary Development Students use their knowledge of word parts and word relationships, as well as context clues (the meaning of the text around a word), to determine the meaning of specialized vocabulary and to understand the precise meaning of grade-level-appropriate words. ☐ READING: Reading Comprehension Students read and understand grade-level-appropriate material. They describe and connect the essential ideas, arguments, and perspectives of the text by using their knowledge of text structure, organization, and purpose. In addition to regular classroom reading, students read a variety of grade-level-appropriate narrative (story) and expository (informational and technical) text, including classic and contemporary literature, poetry, magazines, newspapers, reference materials, and online information. □ READING: Literary Response and Analysis Students read and respond to grade-level-appropriate historically or culturally significant works of literature that reflect and enhance their study of history and social science. They clarify the ideas and connect them to other literary works. ☐ WRITING: Writing Process Students discuss, list, and graphically organize writing ideas. They write clear, coherent, and focused essays. Students progress through the stages of the writing process and proofread, edit, and revise writing. ☐ WRITING: Writing Applications Students continue to write narrative (story), expository (informational), persuasive, and descriptive texts of at least 500 to 700 words. Students are introduced to biographical and autobiographical narratives and to writing summaries of grade-level-appropriate reading materials. The writing demonstrates a command of Standard English and the research, organizational, and drafting strategies outlined in Standard 4—Writing Process. Writing demonstrates an awareness of the audience (intended reader) and purpose for writing. ☐ WRITING: Written English Language Conventions Students write using Standard English conventions appropriate to the grade level.

NOTE: This page provides an overview of the Indiana Academic Standards. The IDOE Web site at http://www.doe.state.in.us/standards contains a complete version of the Indiana Academic Standards, which may be downloaded.

SAMMY'S ADVENTURE

When they reached the river, Sammy splashed cold water on his face; he was hot and scratched from the journey through the thick brush. Sammy noticed that Tina and Robert had already forgotten the tedious¹ climb and were busy skipping flat stones across the river. Since his cousins had lived in the rugged Jackson Mountains all their lives, they were used to hiking. After resting for a few minutes, Sammy started upstream to search for the rapids that Tina said they would swim across. By the time Sammy found the white, splashing water, Tina and Robert had joined him.

The river was considerably narrower and deeper here, and the swift water gushed around giant boulders. Sammy was an excellent swimmer, but he had never before attempted to swim across a current. As he waded in and then swam quickly into the current, he wondered if he would make it. He approached the first

boulders and pulled past them with strong, decisive² strokes. It was thrilling because he felt as if he were testing his strength against the strength of the current.

Sammy could see that the river formed a pool just ahead of him. It looked a bit calmer; he could probably catch his breath there. Suddenly, the current grabbed him and pulled him under. The river was far deeper here than he had realized. As he hit bottom, he felt his pant leg snag on a branch. Sammy struggled desperately because he knew he would soon be out of air. Finally, he was able to kick himself clear, and with a few vigorous strokes, he emerged near the opposite shore.

He climbed out and flopped on the bank, exhausted but safe. His cousins, beaming, waved to him, obviously unaware of his narrow escape in the river. Sammy just took in a deep breath and smiled back.



² decisive: firm

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¹ tedious: tiring



The following is the August 9 entry in the journal of Mona Ramsey, a Forest Lookout.

This long day began in the middle of the night, when the telephone woke me at 2:30 A.M. Since my two-way radio was off while I was sleeping, Mel, the district dispatcher, had to telephone the bad news to me.

Mel told me it looked like I'd be in for some overtime. He said there was an electrical storm moving in from the northwest. It was really a big one. District Four had reported several lightning strikes since midnight, but no rain. He told me I had better stay by the fire finder and keep my map marker handy. His warning didn't alarm me because thunderstorms were common, and I had often used the fire finder to sight various locations during storms. Little did I realize how intensively I would have to use the equipment today!

Facing northwest, I watched the aerial fireworks intensify as the storm approached. Excitement surged within me as I thought about the coming challenge.

Although the tower cabin was chilly, I didn't start a fire in the

stove. Rising heat acts as a conductor and might attract lightning to the tower. Even though lookout stations are protected by lightning rods, I didn't want to risk electrocution.

When the storm was close enough, I began mapping by flashlight the estimated location of each strike within my district. When lightning struck within a mile of the lookout, I remembered to turn off the telephone line. By 6:30 A.M., my area was no longer taking strikes, so I built a fire in the stove and made breakfast.

At dawn, I was out on the catwalk using binoculars to scan the east sector. I focused on spots that I had marked earlier as lightning strikes, and soon I located two columns of smoke in the morning haze. With so many other fires spotted in the area, radio and telephone lines were busy all day. Between looking for new blazes that might develop and making follow-up reports on the already burning fires, it seems as though I've done more than a week's work today.



istory shows that people had ideas for flying machines centuries before the success of Orville and Wilbur Wright.

Around 1500, Leonardo da Vinci imagined flight in what he called an ornithopter. By analyzing birds' flight and adapting the structure of their wings, he made detailed sketches for a wing-flapping device.

Much later, hot-air balloons dotted the skies near Paris. In 1783, the Montgolfier brothers demonstrated that these balloons could carry passengers.

Others, including the German engineer Otto Lilienthal, worked to develop fixed-wing gliders.

Lilienthal's work was the final inspiration for the American inventors. The Wright brothers analyzed the flying attempts of others, studied birds' flight, and made over 700 glider flights.

Finally, in 1903, after developing a suitable gasoline engine and designing propellers, the Wright brothers successfully completed a controlled flight in a powered aircraft. They laid the cornerstone for the future expansion and development of air travel.



The boldest, bravest movie of the decade is here! Thundering across the screen in Rainbowcolor and Spectrovision is *The Chariots of Lothar*! Never before has there been a spectacle of such spine-tingling intrigue. Watch Lothar fearlessly face a world full of danger. You will be amazed by his hair-raising adventures. Award-winning director Anna Soven says, "*The Chariots of Lothar* is the most exciting film I've seen this year."

The Chariots of Lothar is now playing at a theater near you. Don't miss it!

Sample Test Items

Reading: Word Recognition, Fluency, and Vocabulary Development

Students use their knowledge of word parts and word relationships, as well as clues from the surrounding text, to determine the meaning of words. Additionally, items assess a student's ability to understand figurative language, such as similes, metaphors, idioms, and analogies.

Numbers 1 and 2 are based on "Forest Lookout," found on page 13.

1 Read this sentence from the passage.

Facing northwest, I watched the aerial fireworks intensify as the storm approached.

What does the author mean by "aerial fireworks"?

- **A** rair
- **B** hail
- C thunder
- ✓ D lightning
- **2** Read these sentences from the passage.

Rising heat acts as a conductor and might attract lightning to the tower. Even though lookout stations are protected by lightning rods, I didn't want to risk electrocution.

What does the word conductor mean in this context?

- A filter
- **B** driver
- **C** barrier
- ✓ D transmitter

Number 3 is based on "Radio Commercial," found on page 14.

Two words in the commercial, *Spectrovision* and *spectacle*, contain the word part spect. Both words refer to a sense of

- ✓ **A** sight
 - **B** hearing
 - C humor
 - **D** wonder

Reading: Reading Comprehension

Students read a variety of grade-level-appropriate narrative (story) and expository (informational and technical) texts. They describe and connect the essential ideas, arguments, and perspectives by using their knowledge of text structure, organization, and purpose. Additionally, students are able to assess the adequacy of evidence in support of claims and assertions and to follow directions within texts.

Number 4 is based on "Flying Machines," found on page 14.

- 4 Information in the article is presented as a
 - **A** statistical summary
 - **B** technical description
 - **C** comparison of opinions
 - ✓ D series of events

Numbers 5 and 6 are based on "Radio Commercial," found on page 14.

- 5 The commercial MOST LIKELY quotes Anna Soven because she is
 - A a typical moviegoer
 - **B** the director of this movie
 - **C** a well-known critic
 - ✓ D an award-winning director
- 6 The writer uses the phrases like "hair-raising adventures" and "spectacle of such spine-tingling intrigue" so listeners will think the movie is
 - **A** long
 - **B** unusual
 - C exciting
 - **D** dangerous

For Number 7, read the paragraph and then follow the directions.

First, remove the wheel from the bicycle. Next, loosen the tire from the rim. Remove the inner tube from the tire. Insert a new or patched inner tube in the tire and inflate it. Replace the tire securely on the rim. _______.

Choose the sentence that MOST LIKELY comes next.

- A Use a tool to loosen the tire.
- **B** Now the bicycle is ready to ride.
- C Put the wheel back on the bicycle.
 - **D** Get a new inner tube.

8 Complete the chart by explaining how the work of the Montgolfier brothers and Otto Lilienthal helped pave the way for the Wright brothers' success in flying an airplane.

Montgolfier brothers	
Otto Lilienthal	

Exemplars:

•	Montgolfier brothers	showed that hot-air balloons could carry passengers
	Otto Lilienthal	developed a fixed-wing glider

Rubric:

2 points versions of two exemplars1 point version of one exemplar

0 points other

Reading: Literary Response and Analysis

Students read and respond to grade-level-appropriate historically or culturally significant works of literature that vary in form, such as the short story, the novel, and the essay. Within texts, students must be able to identify plot points and their resolutions, to explain how character interactions and motives affect other characters and story outcomes, and to recognize the central idea or theme. Additionally, students must contrast points of view and explain their effect.

Numbers 9 through 12 are based on "Sammy's Adventure," found on page 12.

- 9 In the story, why did Sammy set out alone?
 - A He wanted a cooling swim.
 - **B** He was avoiding his cousins.
 - **C** He had become very restless.
- ✔ D He was looking for the rapids.
- 10 One major difference between Sammy and his cousins is that
 - A his cousins are braver than Sammy
 - **B** Sammy prefers hiking to skipping stones
 - **C** Sammy is a better swimmer than his cousins
 - ✔ D his cousins are more experienced hikers than Sammy
- Which of the following is a theme in the story?
 - ✓ A overcoming danger
 - **B** avoiding loneliness
 - C showing loyalty
 - **D** maintaining friendship
- Sammy's cousins were used to being in the outdoors, but Sammy found the outdoors to be
 - A terrifying
 - **B** exciting
 - C challenging
 - **D** disappointing

13	On the lines below, write TWO events from the story that put Sammy in danger.	
	1)	
	2)	

Exemplars:

- Sammy went to search for the rapids.
- The current pulled him underwater.
- Sammy was unused to swimming across current.
- Sammy went into the current without being sure he could make it.
- Sammy's pants snagged on a branch underwater.
- other relevant text-based response

Rubric:

2 points versions of two

exemplars

1 point version of one

exemplar

0 points other



Suppose that you are Mona's supervisor. You have been asked to write a report on how well Mona carried out her duties as a forest lookout. How well did she perform her job? Write a brief essay in which you explain your findings. Be sure to include at least two examples from "Forest Lookout" in your response.

Exemplars:

Mona did her job well:

- She stayed calm.
- She handled the equipment well.
- She did not light a fire in the stove (to avoid conducting electricity).
- She remembered to turn off the telephone line
- She remained awake to look for lightning strikes.
- other relevant text-based response

Reading Comprehension Rubric:

2 points response includes

versions of two exemplars

1 point response includes

version of one exemplar

0 points other

ALSO SCORED FOR WRITING

Apply 4-point Writing Applications Rubric, Grades 6–12 Apply 4-point Language Conventions Rubric, Grades 6–12

Extended Response Writing Applications Overview Grades 6-12

Score	Does the writing sample	
4	 fully accomplish the task? include many relevant ideas? organize ideas logically? exhibit very good word usage? demonstrate very good writing technique? demonstrate effective adjustment of language and tone to task and reader? 	
Score	Does the writing sample	
3	 accomplish the task? include relevant ideas? organize ideas logically? exhibit good word usage? demonstrate good writing technique? demonstrate an attempt to adjust language and tone to task and reader? 	
Score	Does the writing sample	
2	 minimally accomplish the task? include some relevant ideas? exhibit an attempt to organize ideas logically? exhibit ordinary word usage? demonstrate adequate writing technique? demonstrate an attempt to adjust language and tone to task and reader? 	
Score	Does the writing sample	
1	 only partially accomplish or fail to accomplish the task? include few relevant ideas? exhibit a minimal attempt to organize ideas logically? exhibit minimal word usage? demonstrate minimal or less than minimal writing technique? demonstrate language and tone that may be inappropriate to task and reader? 	

NOTE: This chart is only a brief summary of the score points. It is not appropriate to use this summary as the sole tool in scoring student papers. The more in-depth Extended Response Writing Applications Rubric is used for the actual scoring of *ISTEP*+ student papers.

Extended Response Writing Applications Rubric Grades 6-12

SCORE POINT 4

A Score Point 4 paper represents a solid performance. It fully accomplishes the task.

Ideas and Content

Does the writing sample fully accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- present a unifying theme or main idea without going off on tangents?
- stay focused on topic and task?

Does the writing sample include many relevant ideas? Does it

- provide ample information and more than adequate supporting details that are developed?
- explore many facets of the topic?

Organization

Are the ideas in the writing sample organized logically? Does the writing

- present a meaningful, cohesive whole with a beginning, a middle, and an end (i.e., include a solid introduction and conclusion)?
- progress in an order that enhances meaning of text?
- include smooth transitions (e.g., use topic sentences) between sentences and paragraphs to enhance meaning of text? (Writing may have an occasional lapse.)

Style

Does the writing sample exhibit very good word usage? Does it

- include vocabulary to make explanations detailed and precise, descriptions rich, and actions clear and vivid?
- demonstrate control of vocabulary?

Does the writing sample demonstrate very good writing technique?

- Is the writing very fluent?
- Does it include varied sentence patterns, including complex sentences?
- Does it demonstrate use of writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense)?

Voice

Does the writing sample demonstrate effective adjustment of language and tone to task and reader? Does it

- exhibit appropriate register (e.g., formal, personal, or dialect) to suit task?
- demonstrate a sense of audience?
- exhibit an original perspective (e.g., authoritative, lively, and/or exciting)?

Extended Response Writing Applications Rubric Grades 6-12

SCORE POINT 3

A Score Point 3 paper represents a good performance. It accomplishes the task, but generally needs to exhibit more development, better organization, or a more sophisticated writing style to receive a higher score.

Ideas and Content

Does the writing sample accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- present a unifying theme or main idea? (Writing may include minor tangents.)
- stay mostly focused on topic and task?

Does the writing sample include relevant ideas? Does it

- include sufficient information and supporting details? (Details may not be fully developed; ideas may be listed.)
- explore some facets of the topic?

Organization

Are the ideas in the writing sample organized logically? Does the writing

- present a meaningful whole with a beginning, a middle, and an end despite an occasional lapse (e.g., a weak introduction or conclusion)?
- generally progress in an order that enhances meaning of text?
- include transitions between sentences and paragraphs to enhance meaning of text? (Transitions may be rough, although some topic sentences are included.)

Style

Does the writing sample exhibit good word usage? Does it

- include vocabulary that is appropriately chosen, with words that clearly convey the writer's meaning?
- demonstrate control of basic vocabulary?

Does the writing sample demonstrate good writing technique?

- Is the writing fluent?
- Does it exhibit some varied sentence patterns, including some complex sentences?
- Does it demonstrate an attempt to use writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense)?

Voice

Does the writing sample demonstrate an attempt to adjust language and tone to task and reader? Does it

- generally exhibit appropriate register (e.g., formal, personal, or dialect) to suit task? (The writing may occasionally slip out of register.)
- demonstrate some sense of audience?
- attempt an original perspective?

Extended Response Writing Applications Rubric Grades 6–12

SCORE POINT 2

A Score Point 2 paper represents a performance that minimally accomplishes the task. Some elements of development, organization, and writing style are weak.

Ideas and Content

Does the writing sample minimally accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- attempt a unifying theme or main idea?
- stay somewhat focused on topic and task?

Does the writing sample include some relevant ideas? Does it

- include some information with only a few details, or list ideas without supporting details?
- explore some facets of the topic?

Organization

Is there an attempt to logically organize ideas in the writing sample? Does the writing

- have a beginning, a middle, or an end that may be weak or absent?
- demonstrate an attempt to progress in an order that enhances meaning? (Progression of text may sometimes be unclear or out of order.)
- demonstrate an attempt to include transitions? (Are some topic sentences used? Are transitions between sentences and paragraphs weak or absent?)

Style

Does the writing sample exhibit ordinary word usage? Does it

- contain basic vocabulary, with words that are predictable and common?
- demonstrate some control of vocabulary?

Does the writing sample demonstrate adequate writing technique?

- Is the writing generally fluent?
- Does it contain mostly simple sentences (although there may be an attempt at more varied sentence patterns)?
- Is it generally ordinary and predictable?

Voice

Does the writing sample demonstrate an attempt to adjust language and tone to task and reader? Does it

- demonstrate a difficulty in establishing a register (e.g., formal, personal, or dialect)?
- demonstrate little sense of audience?
- generally lack an original perspective?

Extended Response Writing Applications Rubric Grades 6–12

SCORE POINT 1

A Score Point 1 paper represents a performance that only partially accomplishes or fails to accomplish the task. Some responses may exhibit difficulty maintaining a focus. Others may be too brief to provide sufficient development of the topic or evidence of adequate organizational or writing style.

Ideas and Content

Does the writing sample only partially accomplish or fail to accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)?

- Writing may attempt a main idea, or the main idea may be difficult to discern.
- Does the writing sometimes lose focus or ineffectively establish focus?

Does the writing sample include few relevant ideas?

- Does the writing sample include little information and few or no details?
- Writing may explore only one or two facets of the topic.

Organization

Is there a minimal attempt to logically organize ideas in the writing sample?

- Does the writing have only one or two of the three elements: beginning, middle, and end?
- Is the writing sometimes difficult to follow? (Progression of text may be confusing, unclear, or difficult to discern.)
- Are transitions weak or absent (e.g., few or no topic sentences)?

Style

Does the writing sample exhibit minimal word usage? Does it

- contain limited vocabulary? (Words may be used incorrectly.)
- demonstrate minimal or less than minimal control of vocabulary?

Does the writing sample demonstrate minimal or less than minimal writing technique?

- Does the writing exhibit some or little fluency?
- Does it rely mostly on simple sentences or demonstrate problems with sentence patterns?
- Is it often repetitive, predictable, or dull?

Voice

Does the writing sample demonstrate language and tone that may be inappropriate to task and reader? Does it

- demonstrate use of a register inappropriate to the task (e.g., slang or dialect in a formal setting)?
- demonstrate little or no sense of audience?
- lack an original perspective?

Language Conventions Rubric Grades 6-12

Score	Does the writing sample exhibit a good command of language skills?	
4	In a Score Point 4 paper, there are no errors that impair the flow of communication. Errors are infrequent and will generally be of the first-draft variety; they have a minor impact on the overall communication. • Do words have very few or no capitalization errors? • Do sentences have very few or no punctuation errors? • Do words have very few or no spelling errors? • Do sentences have very few or no grammar or word usage errors? • Writing has very few or no paragraphing errors. • Writing has very few or no run-on sentences or sentence fragments.	
Score	Does the writing sample exhibit an adequate command of language skills?	
3	 In a Score Point 3 paper, errors are occasional but do not impede the flow of communication; the writer's meaning is not seriously obscured by errors in language conventions. Do words have occasional capitalization errors? Do sentences have occasional punctuation errors? Do words have occasional spelling errors? Do sentences have occasional grammar or word usage errors? Writing may have occasional paragraphing errors. Writing may have run-on sentences or sentence fragments. 	
Score	Does the writing sample exhibit a minimal command of language skills?	
2	In a Score Point 2 paper, errors are typically frequent and may cause the reader to stop and reread part of the writing. While some aspects of the writing may be more consistently correct than others, the existing errors do impair communication. With a little extra effort on the reader's part, it is still possible to discern most, if not all, of what the writer is trying to communicate. • Do words have frequent capitalization errors? • Do sentences have frequent punctuation errors? • Do words have frequent spelling errors? • Do sentences have frequent grammar or word usage errors? • Writing may have errors in paragraphing, or paragraphing may be missing. • Writing is likely to have run-on sentences or sentence fragments.	
Score	Does the writing sample exhibit a less than minimal command of language skills?	
1	In a Score Point 1 paper, errors are serious and numerous; they often cause the reader to struggle to discern the writer's meaning. Errors are frequently of a wide variety. There may be sections where it is impossible to ascertain what the writer is attempting to communicate. • Do words have many capitalization errors? • Do sentences have many punctuation errors? • Do words have many spelling errors? • Do sentences have many grammar and word usage errors? • Writing may have errors in paragraphing, or paragraphing may be missing. • Writing is likely to have run-on sentences or sentence fragments.	

NOTE: These rubrics are applied holistically, with no element of the rubric intended to supersede any other element. The variety and proportion of errors in relation to the length of the writing sample are considered. A very brief paper, consisting of two or three sentences, may receive no more than 2 score points.

Writing: Writing Process

Students discuss, list, and graphically organize writing ideas. They write clear, coherent, and focused essays, using transitions between sentences, and support for statements and claims. In addition, students must also give credit for both quoted and paraphrased information. After writing, students are expected to proofread, edit, and revise their writing. The *ISTEP+* assesses a student's ability to meet selected skills in this standard through use of targeted items as well as by application of the Language Conventions Rubric (see page 26) to extended student writing.

For Number 15, read the following sentences. Choose which sentence should come FIRST if all sentences were written in a single paragraph.

- **15** A Once he knocked over a picture frame and broke the glass in it.
 - **▶ B** My little brother can be a lot of trouble.
 - **C** Another time he threw a whole plate of crackers on the floor.
 - **D** I know, because I end up baby-sitting him a lot.

For Number 16, read the paragraph. Then choose the topic sentence.

16

This year, I have several hobbies. My favorite hobby is country line dancing. In fact, I take lessons every Wednesday night at the local fire station. My best friend always goes with me. I love my cowboy boots, and I hope to own a real cowboy hat someday.

- A Sentence 1
- ✓ B Sentence 2
 - C Sentence 3
 - **D** Sentence 4

Writing: Writing Applications

In response to a writing prompt, students must organize their ideas and produce an original story or essay. The type of writing required for *ISTEP+* rotates among the following forms: narrative (story), expository (informational), persuasive, and descriptive.

Each type of writing has specific characteristics that the student is expected to include. For example, a student's narrative essay should advance a plot with precise details about settings, characters, and events, and should also include a beginning, conflict, rising action, climax, resolution, and point of view.

Student writing is evaluated according to the six-point rubric on pages 30 through 37. Students' ability to use Standard English in their writing is assessed using the four-point Language Conventions Rubric on page 29.

The sample writing prompt below requires a narrative essay.

17

Historical Figure

Read the writing prompt below and complete the writing activity.

Suppose you could meet any figure from history or from our century. Perhaps this person performed important deeds or made decisions that changed the world. Whom would you choose to meet and why?

Write a story in which you tell about your encounter. Be sure to include a detailed account of the events in the story, as well as a description of this person and the setting in which the story takes place.

Be sure to include

- · the name and description of the person you would like to meet
- a description of the setting of the story
- a narrative account of the events that take place in the story
- a beginning, a middle, and an end to your story

Language Conventions Rubric Grades 6-12

Score	Does the writing sample exhibit a good command of language skills?	
4	In a Score Point 4 paper, there are no errors that impair the flow of communication. Errors are infrequent and will generally be of the first-draft variety; they have a minor impact on the overall communication. Do words have very few or no capitalization errors? Do sentences have very few or no punctuation errors? Do words have very few or no spelling errors? Do sentences have very few or no grammar or word usage errors? Writing has very few or no paragraphing errors. Writing has very few or no run-on sentences or sentence fragments.	
Score	Does the writing sample exhibit an adequate command of language skills?	
3	 In a Score Point 3 paper, errors are occasional but do not impede the flow of communication; the writer's meaning is not seriously obscured by errors in language conventions. Do words have occasional capitalization errors? Do sentences have occasional punctuation errors? Do words have occasional spelling errors? Do sentences have occasional grammar or word usage errors? Writing may have occasional paragraphing errors. Writing may have run-on sentences or sentence fragments. 	
Score	Does the writing sample exhibit a minimal command of language skills?	
2	In a Score Point 2 paper, errors are typically frequent and may cause the reader to stop and reread part of the writing. While some aspects of the writing may be more consistently correct than others, the existing errors do impair communication. With a little extra effort on the reader's part, it is still possible to discern most, if not all, of what the writer is trying to communicate. • Do words have frequent capitalization errors? • Do sentences have frequent punctuation errors? • Do words have frequent spelling errors? • Do sentences have frequent grammar or word usage errors? • Writing may have errors in paragraphing, or paragraphing may be missing. • Writing is likely to have run-on sentences or sentence fragments.	
Score	Does the writing sample exhibit a less than minimal command of language skills?	
1	In a Score Point 1 paper, errors are serious and numerous; they often cause the reader to struggle to discern the writer's meaning. Errors are frequently of a wide variety. There may be sections where it is impossible to ascertain what the writer is attempting to communicate. Do words have many capitalization errors? Do sentences have many punctuation errors? Do words have many spelling errors? Do sentences have many grammar and word usage errors? Writing may have errors in paragraphing, or paragraphing may be missing. Writing is likely to have run-on sentences or sentence fragments.	

NOTE: These rubrics are applied holistically, with no element of the rubric intended to supersede any other element. The variety and proportion of errors in relation to the length of the writing sample are considered. A very brief paper, consisting of two or three sentences, may receive no more than 2 score points.

Writing Applications Overview Grades 6-12

Score	Ideas and Content	Organization
Level	Does the writing sample	Does the writing sample
6	fully accomplish the task?include thorough, relevant, and complete ideas?	• organize ideas logically?
5	fully accomplish the task?include many relevant ideas?	organize ideas logically?
4	accomplish the task?include relevant ideas?	• organize ideas logically?
3	minimally accomplish the task?include some relevant ideas?	exhibit an attempt to organize ideas logically?
2	only partially accomplish the task?include few relevant ideas?	exhibit a minimal attempt to organize ideas logically?
1	fail to accomplish the task?include very few relevant ideas?	organize ideas illogically?

NOTE: Chart continues on page 31.

This chart is only a brief summary of the score points. It is not appropriate to use this summary as the sole tool in scoring student papers. The more in-depth Writing Applications Rubric is used for the actual scoring of ISTEP+ student papers.

Score	Style	Voice
Level	Does the writing sample	Does the writing sample
6	exhibit exceptional word usage?demonstrate exceptional writing technique?	 demonstrate effective adjustment of language and tone to task and reader?
5	exhibit very good word usage?demonstrate very good writing technique?	 demonstrate effective adjustment of language and tone to task and reader?
4	exhibit good word usage?demonstrate good writing technique?	 demonstrate an attempt to adjust language and tone to task and reader?
3	exhibit ordinary word usage?demonstrate average writing technique?	 demonstrate an attempt to adjust language and tone to task and reader?
2	exhibit minimal word usage?demonstrate minimal writing technique?	 demonstrate language and tone that may be inappropriate to task and reader?
1	 exhibit less than minimal word usage? demonstrate less than minimal writing technique? 	 demonstrate language and tone that may be inappropriate to task and reader?

Writing Applications Rubric Grades 6-12

SCORE POINT 6

A Score Point 6 paper is rare. It fully accomplishes the task in a thorough and insightful manner and has a distinctive quality that sets it apart as an outstanding performance.

Ideas and Content

Does the writing sample fully accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- present a unifying theme or main idea without going off on tangents?
- stay completely focused on topic and task?

Does the writing sample include thorough, relevant, and complete ideas? Does it

- include in-depth information and exceptional supporting details that are fully developed?
- fully explore many facets of the topic?

Organization

Are the ideas in the writing sample organized logically? Does the writing

- present a meaningful, cohesive whole with a beginning, a middle, and an end (i.e., include an inviting introduction and a strong conclusion)?
- progress in an order that enhances meaning?
- include smooth transitions between ideas, sentences, and paragraphs to enhance meaning of text (i.e., have a clear connection of ideas and use topic sentences)?

Style

Does the writing sample exhibit exceptional word usage? Does it

- include vocabulary to make explanations detailed and precise, descriptions rich, and actions clear and vivid (e.g., varied word choices, action words, appropriate modifiers, sensory details)?
- demonstrate control of a challenging vocabulary?

Does the writing sample demonstrate exceptional writing technique?

- Is the writing exceptionally fluent?
- Does it include varied sentence patterns, including complex sentences?
- Does it demonstrate use of writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense)?

Voice

Does the writing sample demonstrate effective adjustment of language and tone to task and reader? Does it

- exhibit appropriate register (e.g., formal, personal, or dialect) to suit task?
- demonstrate a strong sense of audience?
- exhibit an original perspective (e.g., authoritative, lively, and/or exciting)?

Writing Applications Rubric Grades 6-12

SCORE POINT 5

A Score Point 5 paper represents a solid performance. It fully accomplishes the task, but lacks the overall level of sophistication and consistency of a Score Point 6 paper.

Ideas and Content

Does the writing sample fully accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- present a unifying theme or main idea without going off on tangents?
- stay focused on topic and task?

Does the writing sample include many relevant ideas? Does it

- provide in-depth information and more than adequate supporting details that are developed?
- explore many facets of the topic?

Organization

Are the ideas in the writing sample organized logically? Does the writing

- present a meaningful, cohesive whole with a beginning, a middle, and an end (i.e., include a solid introduction and conclusion)?
- progress in an order that enhances meaning of text?
- include smooth transitions (e.g., use topic sentences) between sentences and paragraphs to enhance meaning of text? (Writing may have an occasional lapse.)

Style

Does the writing sample exhibit very good word usage? Does it

- include vocabulary to make explanations detailed and precise, descriptions rich, and actions clear and vivid?
- demonstrate control of vocabulary?

Does the writing sample demonstrate very good writing technique?

- Is the writing very fluent?
- Does it include varied sentence patterns, including complex sentences?
- Does it demonstrate use of writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense)?

Voice

Does the writing sample demonstrate effective adjustment of language and tone to task and reader? Does it

- exhibit appropriate register (e.g., formal, personal, or dialect) to suit task?
- demonstrate a sense of audience?
- exhibit an original perspective (e.g., authoritative, lively, and/or exciting)?

Writing Applications Rubric Grades 6-12

SCORE POINT 4

A Score Point 4 paper represents a good performance. It accomplishes the task, but generally needs to exhibit more development, better organization, or a more sophisticated writing style to receive a higher score.

Ideas and Content

Does the writing sample accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- present a unifying theme or main idea? (Writing may include minor tangents.)
- stay mostly focused on topic and task?

Does the writing sample include relevant ideas? Does it

- include sufficient information and supporting details? (Details may not be fully developed; ideas may be listed.)
- explore some facets of the topic?

Organization

Are the ideas in the writing sample organized logically? Does the writing

- present a meaningful whole with a beginning, a middle, and an end despite an occasional lapse (e.g., a weak introduction or conclusion)?
- generally progress in an order that enhances meaning of text?
- include transitions between sentences and paragraphs to enhance meaning of text? (Transitions may be rough, although some topic sentences are included.)

Style

Does the writing sample exhibit good word usage? Does it

- include vocabulary that is appropriately chosen, with words that clearly convey the writer's meaning?
- demonstrate control of basic vocabulary?

Does the writing sample demonstrate good writing technique?

- Is the writing fluent?
- Does it exhibit some varied sentence patterns, including some complex sentences?
- Does it demonstrate an attempt to use writer's techniques (e.g., literary conventions such as imagery and dialogue and/or literary genres such as humor and suspense)?

Voice

Does the writing sample demonstrate an attempt to adjust language and tone to task and reader? Does it

- generally exhibit appropriate register (e.g., formal, personal, or dialect) to suit task? (The writing may occasionally slip out of register.)
- demonstrate some sense of audience?
- attempt an original perspective?

Writing Applications Rubric Grades 6-12

SCORE POINT 3

A Score Point 3 paper represents a performance that minimally accomplishes the task. Some elements of development, organization, and writing style are weak.

Ideas and Content

Does the writing sample minimally accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- attempt a unifying theme or main idea?
- stay somewhat focused on topic and task?

Does the writing sample include some relevant ideas? Does it

- include some information with only a few details, or list ideas without supporting details?
- explore some facets of the topic?

Organization

Is there an attempt to logically organize ideas in the writing sample? Does the writing

- have a beginning, a middle, or an end that may be weak or absent?
- demonstrate an attempt to progress in an order that enhances meaning? (Progression of text may sometimes be unclear or out of order.)
- demonstrate an attempt to include transitions? (Are some topic sentences used? Are transitions between sentences and paragraphs weak or absent?)

Style

Does the writing sample exhibit ordinary word usage? Does it

- contain basic vocabulary, with words that are predictable and common?
- demonstrate some control of vocabulary?

Does the writing sample demonstrate average writing technique?

- Is the writing generally fluent?
- Does it contain mostly simple sentences (although there may be an attempt at more varied sentence patterns)?
- Is it generally ordinary and predictable?

Voice

Does the writing sample demonstrate an attempt to adjust language and tone to task and reader? Does it

- demonstrate a difficulty in establishing a register (e.g., formal, personal, or dialect)?
- demonstrate little sense of audience?
- generally lack an original perspective?

Writing Applications Rubric Grades 6-12

SCORE POINT 2

A Score Point 2 paper represents a performance that only partially accomplishes the task. Some responses may exhibit difficulty maintaining a focus. Others may be too brief to provide sufficient development of the topic or evidence of adequate organizational or writing style.

Ideas and Content

Does the writing sample only partially accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Does it

- attempt a main idea?
- sometimes lose focus or ineffectively display focus?

Does the writing sample include few relevant ideas? Does it

- include little information and few or no details?
- explore only one or two facets of the topic?

Organization

Is there a minimal attempt to logically organize ideas in the writing sample?

- Does the writing have only one or two of the three elements: beginning, middle, and end?
- Is the writing sometimes difficult to follow? (Progression of text may be confusing or unclear.)
- Are transitions weak or absent (e.g., few or no topic sentences)?

Style

Does the writing sample exhibit minimal word usage? Does it

- contain limited vocabulary? (Some words may be used incorrectly.)
- demonstrate minimal control of vocabulary?

Does the writing sample demonstrate minimal writing technique?

- Does the writing exhibit some fluency?
- · Does it rely mostly on simple sentences?
- Is it often repetitive, predictable, or dull?

Voice

Does the writing sample demonstrate language and tone that may be inappropriate to task and reader? Does it

- demonstrate use of a register inappropriate to the task (e.g., slang or dialect in a formal setting)?
- demonstrate little or no sense of audience?
- lack an original perspective?

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Writing Applications Rubric Grades 6-12

SCORE POINT 1

A Score Point 1 paper represents a performance that fails to accomplish the task. It exhibits considerable difficulty in areas of development, organization, and writing style. The writing is generally either very brief or rambling and repetitive, sometimes resulting in a response that may be difficult to read or comprehend.

Ideas and Content

Does the writing sample fail to accomplish the task (e.g., support an opinion, summarize, tell a story, or write an article)? Is it

- difficult for the reader to discern the main idea?
- too brief or too repetitive to establish or maintain a focus?

Does the writing sample include very few relevant ideas?

- Does it include little information with few or no details or unrelated details?
- Is it unsuccessful in attempts to explore any facets of the prompt?

Organization

Are the ideas in the writing sample organized illogically?

- Does it have only one or two of the three elements: beginning, middle, or end?
- Is it difficult to follow, with the order possibly difficult to discern?
- Are transitions weak or absent (e.g., without topic sentences)?

Style

Does the writing sample exhibit less than minimal word usage? Does it

- contain limited vocabulary, with many words used incorrectly?
- demonstrate minimal or less than minimal control of vocabulary?

Does the writing sample demonstrate less than minimal writing technique? Does it

- lack fluency?
- demonstrate problems with sentence patterns?
- consist of writing that is flat and lifeless?

Voice

Does the writing sample demonstrate language and tone that may be inappropriate to task and reader? Does it

- demonstrate difficulty in choosing an appropriate register?
- demonstrate a lack of a sense of audience?
- lack an original perspective?

NOTE: These scoring rubrics are used for students tested on the fall ISTEP+ assessment in Grades 6-12.

Writing: Written English Language Conventions

The student's ability to write clear and correct English is assessed by multiple-choice items as well as by application of the four-point Language Conventions Rubric to extended student writing. Specific skills assessed by multiple-choice items may include correct and appropriate use of modifiers, infinitives, participles, prefixes and suffixes, pronoun reference, active voice, parts of speech, sentence structure, and punctuation.

For Numbers 18 and 19, choose the sentence that is written MOST clearly and correctly.

- **18** \checkmark **A** We washed the car with sponges before the rain came pouring down.
 - **B** With sponges, the car was washed before the rain came pouring down.
 - **C** Before the rain came pouring down, with sponges we washed the car.
 - **D** The car was washed with sponges, before the rain came pouring down.
- **19** A To pay for a new bike, Dana decided to get a job.
 - **B** Dana deciding to get a job to pay for a new bike.
 - **C** To pay for a new bike, Dana have decided to get a job.
 - **D** Dana was decided to get a job and to pay for a new bike.

For Numbers 20 and 21, choose the sentence that shows the correct punctuation.

- **20** A "Please finish reading chapter six by tomorrow," the teacher said.
 - **B** "Emily, asked her mother." May I be excused from the table?
 - **C** We won the football game in overtime, the coach said "but only by a point."
 - **D** "Who wants ice cream, my sister asked."
- **21 A** When I go to the movies; I always buy popcorn.
 - **B** I always buy popcorn; when I go to the movies.
 - ✔ C I like going to the movies; I always buy popcorn.
 - **D** Buying popcorn at the movies; I like going to the movies.

For Number 22, choose the word that is spelled correctly and BEST completes the sentence.

- 22 It was _____ warm in the auditorium.
 - **A** uncomfortibly
 - **B** uncomfortibley
 - **✓** C uncomfortably
 - **D** uncomfortabley



GRADE 7 INDIANA ACADEMIC STANDARDS

Number Sense Students understand and use scientific notation and square roots. They convert between fractions and decimals.		
Computation Students solve problems involving integers, fractions, decimals, ratios, and percentages		
Algebra and Functions Students express quantitative relationships using algebraic terminology, expressions, equations, inequalities, and graphs.		
Geometry Students deepen their understanding of plane and solid geometric shapes by constructing shapes that meet given conditions and by identifying attributes of shapes.		
Measurement Students compare units of measure and use similarity to solve problems. They compute the perimeter, area, and volume of common geometric objects and use the results to find measures of less regular objects.		
Data Analysis and Probability Students collect, organize, and represent data sets and identify relationships among variables within a data set by hand and through the use of an electronic spreadsheet software program. They determine probabilities and use them to make predictions about events.		
Problem Solving Students make decisions about how to approach problems and communicate their ideas.		

Number Sense

This standard assesses a student's ability to understand and use various aspects of number theory, including scientific notation, square roots, prime factorization, and rational and irrational numbers.

- **1** Which of the following statements is true?
 - **A** $5^{10} = 10^5$
 - **B** $2^8 = 4^4$
 - $\mathbf{C} \quad 6^4 = 3^8$
 - **D** $2^9 = 6^3$
- **2** Which of the following shows the prime factorization of 120?
 - **A** 12 × 10
 - **B** $2 \times 3 \times 5$
- \checkmark C $2^3 \times 3 \times 5$
 - **D** $2^2 \times 3 \times 10$

The Caspian Sea is the largest lake in the world, with an area of 1.46×10^5 square miles. Lake Superior has an area of 3.17×10^4 square miles. What is the difference, in square miles, of the areas of the two lakes? Write your answer in scientific notation.

Show All Work

Answer ______ square miles

Exemplary Response:

• 1.143×10^5 square miles

Sample Process:

•
$$1.46 \times 10^5 = 14.6 \times 10^4$$

 $14.6 \times 10^4 - 3.17 \times 10^4 = 11.43 \times 10^4$
 $11.43 \times 10^4 = 1.143 \times 10^5$

OR

•
$$1.46 \times 10^5 = 146,000$$

 $3.17 \times 10^4 = 31,700$
 $146,000 - 31,700 = 114,300$
 $114,300 = 1.143 \times 10^5$

OR

• Other valid process

Rubric:

2 points Exemplary response

1 point Correct complete process; error in computation

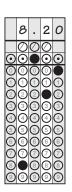
OR

Correct answer of 1.143×10^5 written in incorrect scientific notation

OR

Answer of 114,300

- Last year, the freighter Mariposa carried 20 million tons of cargo. This year,
- the Mariposa carried 16 million tons of cargo. What is the percent decrease in the amount of cargo carried by the Mariposa from last year to this year?
- ✓ A 20%
 - **B** 25%
 - **C** 36%
 - **D** 40%
- 5 Roberto wants to buy a pair of roller blades that are on sale. The original price of \$195.00 has been discounted 30%. Which of the following is the sale price of the roller blades?
 - \$30.00
 - \$58.50
 - **C** \$136.50
 - **D** \$165.00
- 6 Bill is ordering books from a bookstore. The books cost \$35.00 plus tax. Tax is \$2.80 and it costs \$4.00 to ship the books. He is using a \$50.00 gift certificate to pay for the books. How much change will Bill receive?



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Algebra and Functions

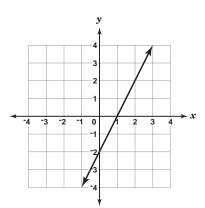
This standard assesses a student's ability to express relationships using algebraic terminology, expressions, equations, inequalities, and graphs.

7 So

Solve $5x - 10 \le 25$.

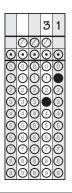
- **A** $x \le -7$
- **B** $x \le -5$
- **C** $x \le 5$
- ✓ **D** $x \le 7$
- 8 Look at the graph below.





What is the slope of the line in the graph?

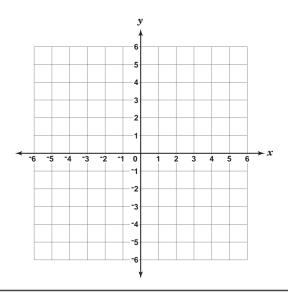
- **A** -2
- **B** $-\frac{1}{2}$
- **c** $\frac{1}{2}$
- **✓ D** 2
- **9** Simplify $10 + 6 \times 3 \div 6 + 9 \times 2$.



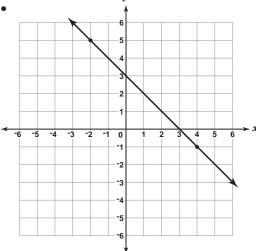


Use your ruler to solve this problem.

On the grid below, graph the points (-2, 5) and (4, -1). Then draw the line that passes through the two points.



Exemplary Response:



Rubric:

2 points Exemplary

response

1 point Only one point

graphed correctly with line drawn through two points

OR

Two points graphed correctly; line not drawn

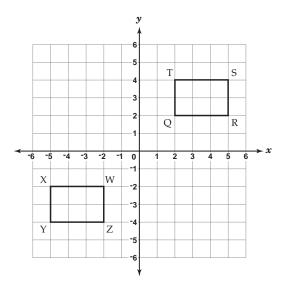
0 points Other

NOTE: There is no penalty for not graphing one or both points if the line passes through the correct point(s).

Geometry

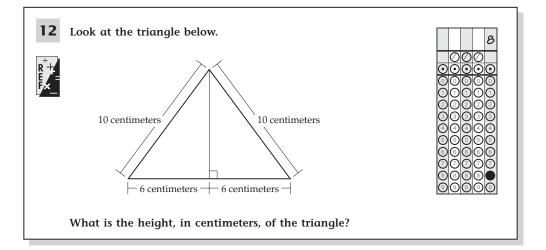
This standard assesses a student's ability to understand and use the principles of two-dimensional geometric figures.

11 Rectangle WXYZ is a rotation of rectangle QRST, as shown below.



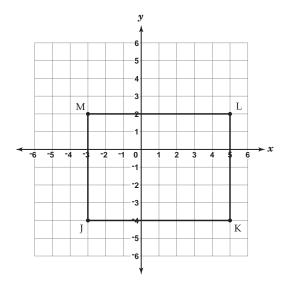
Which of the following statements is true?

- **A** \overline{WX} is congruent to \overline{QT} .
- **B** \overline{XY} is not congruent to \overline{RS} .
- ✔ C The areas of the rectangles are equal.
 - **D** The perimeters of the rectangles are not equal.



Kayla graphed rectangle JKLM on the grid below.





What is the area, in square units, of the rectangle?

Show All Work

Answer ______ square units

Exemplary Response:

• 48 square units

Sample Process:

•
$$\overline{JK} = 8$$
; $\overline{KL} = 6$

$$6 \times 8 = 48$$

OR

•
$$6 \times 8 = 48$$

OR

• Other valid process

Rubric:

2 points Exemplary

response

1 point Correct complete

process; error in computation

Measurement

This standard assesses a student's ability to compare units of measure, understand and use similarity to solve problems, and compute perimeter, area, and volume.



Mr. Doyle owns a tractor that weighs 10.5 tons. What is the weight, in pounds, of the tractor?



20,100

20,500

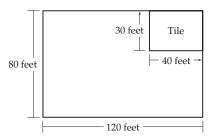


21,000

21,500

The lobby of the Main Street Hotel measures 120 feet by 80 feet. A 40- by 30-foot corner of the lobby is to be covered with tile, and the rest of the lobby is to be covered with carpet, as shown below.





What is the area, in square feet, that will be covered by carpet?

- 4,000 square feet
- 8,400 square feet

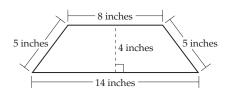
 - 9,480 square feet
 - D 10,800 square feet

16 George and Nancy are designing a house for a school project. They are making a drawing of the house with a scale of $\frac{1}{4}$ inch = 1 foot. They want the living room in the house to have a width of 12 feet and a length of 20 feet. What will be the width of the living room, in inches, in the scale drawing?



Look at the trapezoid below.





What is the area, in square inches, of the trapezoid?

Show All Work

Answer ______ square inches

Exemplary Response:

• 44 square inches

Sample Process:

•
$$\frac{1}{2} \times 4 \times (8 + 14) = 2 \times 22$$

= 44

OR

• Other valid process

Rubric:

2 points Exemplary

response

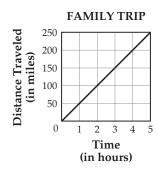
1 point Correct complete

process; error in computation

Data Analysis and Probability

This standard assesses a student's ability to organize and represent data, and to determine probabilities.

The line graph below shows how far the members of the Vasquez family drove the first 5 hours on a trip.



If the members of the Vasquez family continue driving at the same speed without stopping, how many miles will they travel in 8 hours?

- A 50 miles
- **B** 150 miles
- C 250 miles
- ✓ D 400 miles

19 Carlos has 120 baseball cards. If he chooses a card at random, the probability is 0.6 that he chooses a pitcher, 0.3 that he chooses an infielder, and 0.1 that he chooses an outfielder. What is the probability that Carlos will choose an infielder's or an outfielder's card?



75	70	67	64	61
72	69	65	63	60
71	69	65	63	59
71	68	65	62	57

A new student who is 58 inches tall enrolled in Ms. Ramirez's class. On the lines below, explain how the height of the new student will affect the mean of the heights of the students in Ms. Ramirez's class.

On the lines below, explain how the height of the new student will affect the median of the heights of the students in Ms. Ramirez's class.

Exemplary Response:

• The mean will be lower.

OR

• Other valid explanation

AND

• The median will not be affected.

OR

• Other valid explanation

Rubric:

2 points Exemplary

response

1 point One correct

explanation

Problem Solving

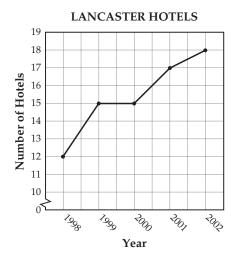
This standard assesses a student's ability to select appropriate problem-solving strategies and to communicate ideas.

21

The height of a right triangle is 3 centimeters and the area of the triangle is 6 square centimeters. What is the length, in centimeters, of the hypotenuse of the triangle?



- **4** 5 centimeters
- **B** 9 centimeters
- C 10 centimeters
- **D** 18 centimeters
- The graph below shows the number of hotels in the city of Lancaster over the past several years.

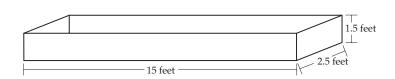


What is the percent increase in the number of hotels in Lancaster from 1998 to 2002?

- **A** 6%
- **B** 20%
- **C** 33%
- ✓ **D** 50%

The students at Sheridan Middle School are filling the planter boxes in the school with dirt. There are 12 planter boxes of the type shown below.





The dirt costs \$1.10 per cubic foot. What is the cost of filling all the planter boxes with dirt?

Show All Work

Answer \$ _____

Exemplary Response:

• \$742.50

AND

•
$$15 \times 2.5 \times 1.5 = 56.25$$

 $56.25 \times 12 = 675$

 $675 \times \$1.10 = \742.50

OR

• Other valid process

Rubric:

3 points Exemplary

response

2 points Correct answer

only

OR

Correct complete process; error in computation

1 point Correct process

for computing volume of all boxes

OR

Correct process for computing cost of filling one box

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ISTEP+ Mathematics Reference Sheet

Shape	Formulas for Area (A) and Circumference (C)			
Triangle	$A = \frac{1}{2}bh = \frac{1}{2} \times base \times height$			
Rectangle	$A = Iw = \text{length} \times \text{width}$			
Trapezoid	$A = \frac{1}{2}(b_1 + b_2)h = \frac{1}{2} \times \text{sum of bases} \times \text{height}$			
Parallelogram	$A = bh = base \times height$			
Square	$A = s^2 = \text{side} \times \text{side}$			
Circle	$A = \pi r^2 = \pi \times \text{square of radius}$ $C = 2\pi r = 2 \times \pi \times \text{radius}$ $\pi = 3.14 \text{ or } \frac{22}{7}$			
Figure	Formulas for Volume (V) and Surface Area (SA)			
Rectangular Prism	$V = lwh = length \times width \times height$ SA = 2lw + 2hw + 2lh $= 2(length \times width) + 2(height \times width) + 2(length \times height)$			
General Prisms	$V = Bh$ = area of base \times height SA = sum of the areas of the faces			
Cylinder	$V = \pi r^2 h = \pi \times \text{square of radius} \times \text{height}$ $SA = 2\pi r(r + h) = 2 \times \pi \times \text{radius (radius + height)}$ $\pi = 3.14 \text{ or } \frac{22}{7}$			

Conversions

1 yard = 3 feet = 36 inches 1 mile = 1,760 yards = 5,280 feet 1 acre = 43,560 square feet 1 hour = 60 minutes

1 minute = 60 seconds

1 liter = 1000 milliliters = 1000 cubic centimeters 1 meter = 100 centimeters = 1000 millimeters

1 kilometer = 1000 meters 1 gram = 1000 milligrams 1 kilogram = 1000 grams 1 cup = 8 fluid ounces

1 pint = 2 cups 1 quart = 2 pints 1 gallon = 4 quarts

1 pound = 16 ounces 1 ton = 2,000 pounds

Equation of a Line

Slope-Intercept Form:

$$y = mx + b$$

where m = slope and b = y-intercept

Slope of a Line

Let (x_1, y_1) and (x_2, y_2) be two points in the plane.

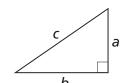
slope =
$$\frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$
 where $x_2 \neq x_1$

Distance Formula

$$d = rt$$

 $distance = rate \times time$

Pythagorean Theorem



$$a^2 + b^2 = c^2$$

Temperature Formulas

$$^{\circ}$$
C = $\frac{5}{9}$ (F - 32)

 $^{\circ}$ Celsius = $\frac{5}{9}$ × ($^{\circ}$ Fahrenheit - 32)

$$^{\circ}F = \frac{9}{5}C + 32$$

 $^{\circ}$ Fahrenheit = $\frac{9}{5} \times ^{\circ}$ Celsius + 32

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